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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,152	12/31/2003	Rajiv Vasant Joshi	YOR919940172US6	1327
32074 7590 05/05/2010 INTERNATIONAL BUSINESS MACHINES CORPORATION DEPT. 18G BLDG. 321-482 2070 ROUTE 52 HOPEWELL JUNCTION, NY 12533			EXAMINER PICARDAT, KEVIN M	
			ART UNIT 2822	PAPER NUMBER
			NOTIFICATION DATE 05/05/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

EFIPLAW@US.IBM.COM

<b>Office Action Summary</b>	<b>Application No.</b> 10/749,152	<b>Applicant(s)</b> JOSHI, RAJIV VASANT	
	<b>Examiner</b> Kevin M. Picardat	<b>Art Unit</b> 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-6-10, 4-29-10</u> .   | 6) <input type="checkbox"/> Other: _____                          |

***Reissue Applications***

**DETAILED ACTION**

***Drawings***

The drawings are objected to because Figure 6 was amended but does not include the word "Amended" at the bottom of the figure, please see MPEP 1413, of which a section is provided below.

(B) Where a change to the drawings is desired, applicant must submit a replacement sheet for each sheet of drawings containing a Figure to be revised. Any replacement sheet must comply with 37 CFR 1.84 and include all of the figures appearing on the original version of the sheet, even if only one figure is being amended. Each figure that is amended must be identified by placing the word "Amended" at the bottom of that figure. Any added figure must be identified as "New." In the event that a figure is canceled, the figure must be identified as "Canceled" and also surrounded by brackets. All changes to the figure(s) must be explained, in detail, beginning on a separate sheet which accompanies the papers including the amendment to the drawings.

***Claim Objections***

Applicant is notified that any subsequent amendment to the specification and/or claims must comply with 37 CFR 1.173(b). In addition, when any substantive amendment is filed in the reissue application, which amendment otherwise places the reissue application in condition for allowance, a supplemental oath/declaration will be required. See MPEP § 1414.01.

The amendment filed 23 June 2005 proposes amendments to claims that do not comply with 37 CFR 1.173(b), which sets forth the manner of making amendments in reissue applications.

Claims 17-37 are improper. These claims were added in the reissue application and thus the entirety of each claim should be underlined.

Claims 17-37 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claim subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

The added claims violate the recapture rule because they do not contain the subject matter that applicant argued for patentability during the original prosecution. See MPEP 1412.02.

From the prosecution record of the original application (09/112,885), the examiner rejected the claim 1 under 35 USC 102(b) as being unpatentable over Nakasaki (US 5,084,412) (see Non-Final action mailed on 12/6/00).

In response to the examiner's rejection, the applicant amended the claim 1 by adding the limitations, "larger than 200 nm" and "said soft metal conductor being formed by at least one metal selected from the group consisting of Al, Cu and Ag" (see Amendment filed on 3/5/01).

Moreover, the applicant argued that the above added limitations are not shown by Nakasaki (see 09/112,885, Applicant's remark filed on 3/5/01, p 6-8):

Following the applicant's amendment and argument, the examiner allowed the claim 1 in the next Office Action (mailed on 6/5/01).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Merchant et al. US 5,523,259.

Merchant et al. discloses a soft metal conductor (16.2) for use in a semiconductor device including grains having grain sizes large than 200 nm (col. 4 lines 62-65) and including at least one metal selected from the group consisting of Al, Cu and Ag, also having second layer (16.1) under the first soft metal conductor having grain sizes not larger than about 20% of the thickness of the soft metal structure (col. 4, lines 54-61). Also disclosed is having a Ti layer which is converted to  $TiAl_3$  upon annealing at a temperature higher than room temperature and thus improving the electromigration resistance of the soft metal conductor (col. 4, lines 23-36). Also note that since the structure of Merchant et al. is the same as those claimed it will have the same characteristics as those claimed including scratch resistance.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merchant et al. as applied to claims 1-16 above, and further in view of Chang et al. US 5,266,446.

Merchant et al. teaches as stated above, but does specifically state the soft metal is plated. Merchant et al. discloses using sputtering but does teach that the invention is not limited to this technique (col. 4, lines 7-10).

Chang et al. teaches that conductive material can be deposited by CVD, sputtering or electroplating (col. 1, line 47-57) and that copper can be deposited by electroless plating or electro-plating (col. 7, lines 11-26).

Therefore it would have been obvious to one of ordinary skill in the art to modify Merchant et al. as taught by Chang et al. because plating provides better coverage during deposition.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Picardat whose telephone number is 571-272-1841. The examiner can normally be reached on Monday-Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zandra Smith can be reached on 571-272-2429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Picardat/  
Primary Examiner, Art Unit 2822